

Stabbing Injury of the Forearm: A Case Report

Stabbing Injury

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Abstract

Foreign body injuries are common injuries and foreign body penetrations may occur in almost any part of the body. In the literature there are many reports including different kinds of piercing or penetrating injuries of the extremities. In this paper we report the case of a 19-year-old man who presented with a knife retained in the forearm and our treatment strategy for removing the knife. We informed our patient and took the consent form before the submission for publication.

Keywords

Penetrating Injuries; Stab Wound; Extremity

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Introduction

Foreign body penetrations are common injuries and may occur in almost any part of the body [1,2]. Nearly half of the penetrating traumas are penetrating injuries to the extremities. Penetrating injuries of extremities are commonly seen in the accident and emergency departments and they are excessively associated with peripheral nerve and arterial injuries [3,4]. They are less common injuries in West European countries. In these countries the low incidence makes it difficult to gain experience for the trauma surgeons [2]. So as not to miss such common injuries as it can lead to drastic consequences, physicians should be more careful at the examination and treatments of such wounds. We report the case of a 19-year-old man who was assaulted and stabbed in his right forearm.

Case Report

A 19-year-old man was admitted to the emergency department of our hospital with a piercing injury to his right forearm. He reported that he had been assaulted and stabbed in his right forearm about half an hour ago. At presentation, the patient had a stab wound on the anteromedial volar side of his forearm and there was a knife penetrated into the forearm with an entrance of a 4 cm from the anteromedial aspect. The patient's blood pressure, his pulse rate and his body temperature was in normal limits. No active bleeding from the entry or pulsatile hematoma or aneurysmal bruit at the forearm lesion occurred. The volume and character of the radial and ulnar pulse on the affected side were similar to those on the contralateral side. Neurological examination of the right upper extremity revealed no motor or sensory deficits. Patient was able to move his right hand and elbow, but the movements were limited and painful because of the knife. No bleeding was evident on physical examination. Radiological studies of the affected forearm revealed that the knife spanned in a posterolateral direction and penetrated approximately 6 cm into the forearm and didn't exit the body without any osseous penetration (Figure 1a-c). In the emergency room tetanus vaccination was performed without immunisation and a broad-spectrum antibiotic was prescribed.

For removing the deep-seated knife so as not to injure the surrounding tissues during removal we considered to make the operation under general anesthesia. During the operation we made a slight exposure by extending an incision both proximal and distal to the blade and saw that the knife had entered the forearm through the fleksor muscles near to the median nerve and away from the radial and ulnar neurovascular bundle (Figure 1d). Luckily there was no neurovascular damage and no

fracture of any side of the forearm. Then the the knife was removed slowly when we ensured that no neurovascular injury had occurred. The muscles penetrated by the knife were irrigated and the skin was repaired. After the operation the patient's hand and elbow movements were full at any direction. After two weeks rest he was able to work.

Discussion

Foreign body penetrations are common injuries and may occur in almost any part of the body [1,2]. Penetrating trauma of upper extremities are considered as difficult injuries to manage because vascular and nerve injuries are serious and may lead to catastrophic damages impairing the patient outcome [4,5]. In common practice for the treatment of this deeper penetrating injuries routine emergent exploration was performed causing a large number of iatrogenic injuries and unnecessary extremity explorations [6]. Some authors support the idea of elective non-operative management favorable for the management of penetrating injuries of the upper extremities [2]. In this case, we didn't attempt to remove the knife at the emergency department so as not to cause neurovascular damage and to avoid unnecessary morbidity we performed slight dissection into the knife tract.

To ensure the best outcome the physicians must perform an accurate, rapid and detailed examination for all injured extremities exploring vascular, nerve, and muscular injury. In the literature for the penetrating injury of upper extremities, neurovascular deficit and osseous penetration were reported [7,8]. Our case was not complicated with neurovascular deficits or fracture of the forearm. We advocated the treatment strategy of remove foreign body, irrigate its tract, provide systemic antibiotics keeping with the guidelines used for any retained foreign body [9,10]. Postoperatively we checked the neurological examination and no deficit was detected. At the follow up period we didn't encounter any complications like late neurologic deficit or wound infection. After 2 weeks the patient returned his previous activity levels.

In this paper we wanted to emphasize the importance of rapid and controlled intervention for the penetrating injuries of the upper extremities.

Conclusion

In penetrating injuries of extremities such as stabbing not to miss neurovascular injuries the physicians must perform an accurate, rapid and detailed examination. We think foreign body removal should be performed not at the emergency rooms but at the operation theatres with anesthesia and detailed dissection is critical to prevent iatrogenic injuries.

Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

Animal and human rights statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.

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Conflict of interest

None of the authors received any type of financial support that could be considered potential conflict of interest regarding the manuscript or its submission.

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Figure 1. The knife was spanned in a posterolateral direction(a), it penetrated approximately 6 cm into the forearm(b), and didn't exit the body without any osseous penetration(c). The knife had entered the forearm through the fleksor muscles near to the median nerve and away from the radial and ulnar neurovascular bundle(d).

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